WILLKIE FARR & GALLAGHER

Washington, DC
New York
London
Paris

May 19, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Ex Parte Filing
CC Docket No. 96-98
CS Docket No. 95-184
ET Docket No. 95-183, RM 8553
IB Docket No. 97-95, RM 8811

Dear Ms. Salas:

Yesterday, representatives of WinStar Communications, Inc. met with Chairman Kennard, Legal Advisors Tom Powers and Ari Fitzgerald, and Commission staffers Jeanine Poltronieri, MaryAnne McCormick and Lisa Gelb to discuss various issues pertaining to WinStar. Representatives of WinStar included William Rouhana, Jr., Tim Graham, Joseph Sandri, Jr., Gary Markovits, Phil Verveer, and the undersigned.

During the meeting, WinStar discussed the points contained on the attached agenda. Specifically, it provided background on the company, *i.e.*, it is a wireless CLEC with licenses in the top 50 U.S. cities. WinStar also explained that one of the largest obstacles to building out its systems and competing with incumbent LECs is an inability to access rooftops and inside wiring on fair terms. WinStar urged the Commission to resolve swiftly the band segmentation plan for 37-40 GHz as well as discussing its WinStar For Education initiative, the importance of the Universal Service Schools and Library fund, and WinStar's LATTICE program for D.C. schools.

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202 328 8000

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Pursuant to the Commission's rules, two copies of this document are being filed with your office.

Sincerely,

Michael F. Finn

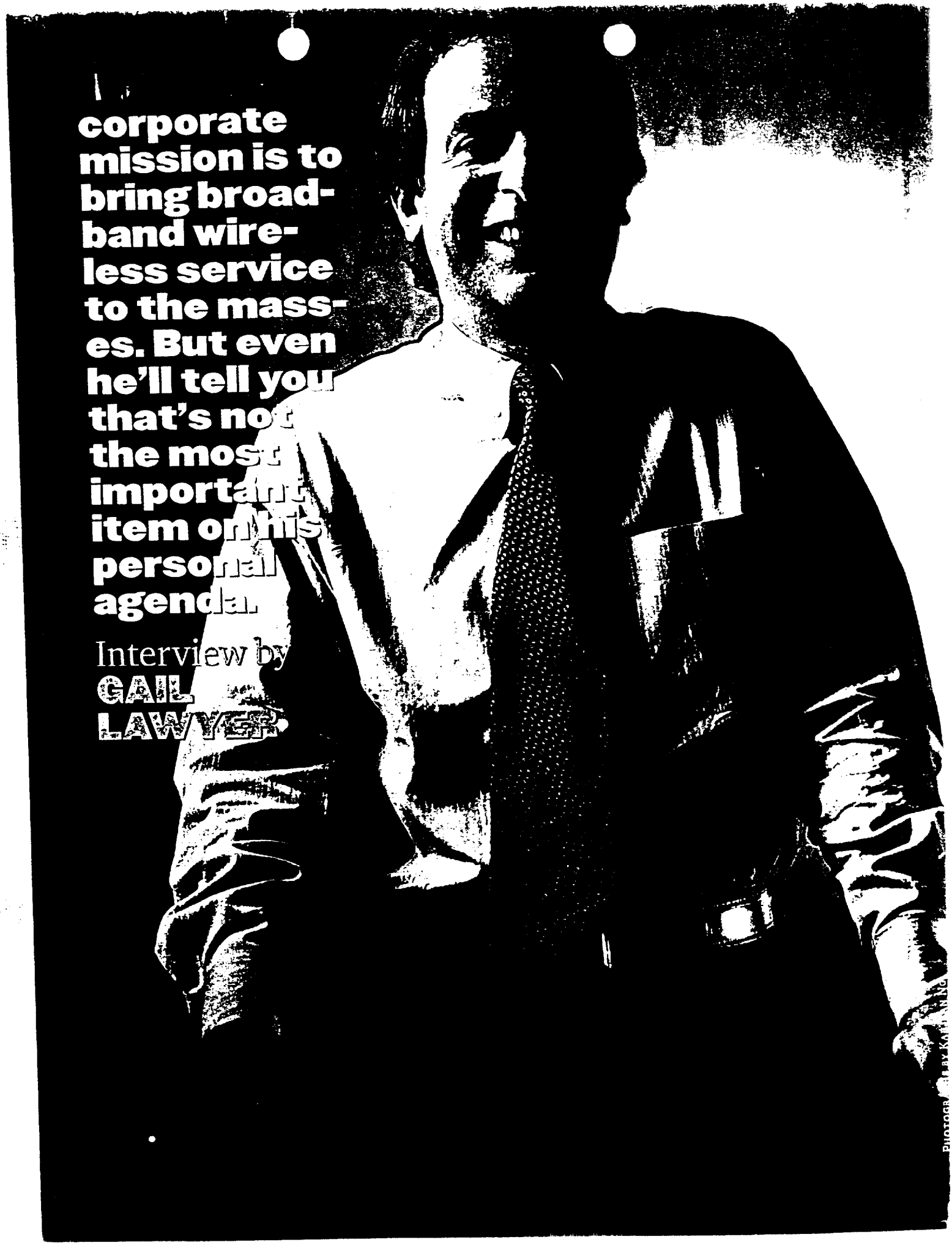
Enclosures

CC w/o enclosures:

Chairman William Kennard
Tom Powers
Ari Fitzgerald
Jeanine Poltronieri
MaryAnne McCormick
Lisa Gelb

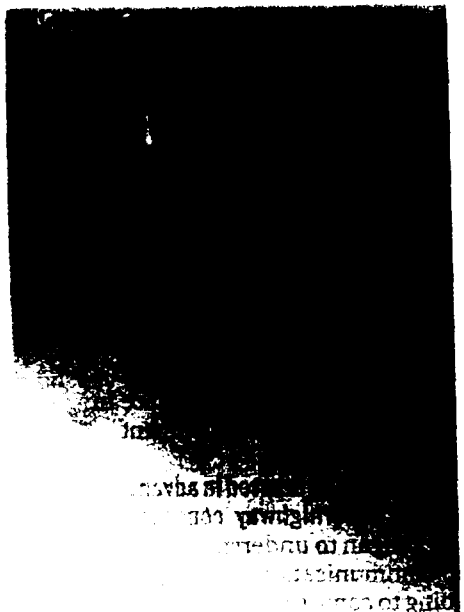
AGENDA
Federal Communications Commission/WinStar Communications, Inc.
May 18, 1998
3pm

1. Introduction to WinStar Communications, Inc.
   - Facilities-based voice and data
   - 38 GHz Licenses
     -Licenses in Top 50 U.S. Cities
     -256 area licenses covering up to 10,000 square miles
   - 28 GHz Licenses
   - Wireless Fiber – Fiber Optic-type Quality. 99.999%
   - Since Jan. 1, 1998: Raised $1.4 Billion
   - Hub Networks Attached to Lucent Class 5 Switches
   - CLEC Authorities: 38 Jurisdictions
   - Interconnection Agreements: RBOCs, GTE, Independents
2. Building Access/Inside Wire
   - Sept. 30, 1996. WinStar Petition for Clarification or Reconsideration (CC Dkt. 96-98)
   - Aug. 7, 1997. WinStar Comments (CS Dkt. 95-184)
3. 38 GHz
   - Resolve 36-51 GHz Band Plan Proceeding (Dkt. 97-95)
   - Resolve Outstanding Applications
   - Buildout: Responding to the Market
4. WinStar for Education
   - Urban Solution
   - Fund Inside Wire
   - LATTICE
   - http://www.win4edu.com
   - http://www.tidalpassages.com



corporate mission is to bring broad-band wire-less service to the mass-es. But even he'll tell you that's not the most important item on his personal agenda.

Interview by
GAIL
LAWYER



GIVE YOUR STEREOTYPICAL corporate mogul a couple of days off, and he'll probably start thinking about tee times or the latest marine weather forecast. Offer that same spare time to Bill Rouhana, and he might start thinking about how to rid the planet of land mines or about booking a flight to the world's latest trouble spot. Besides his corporate duties as **founder, chairman,** and **CEO of WinStar Communica-**

QUALITY TIME

tions Inc., Rouhana travels to United Nations peacekeeping missions in war zones, such as the Golan Heights, Cambodia, Bosnia, El Salvador, and Somalia. Since 1990, he has been meeting with the good, the bad, and the humanitarian to assess and offer advice on how the UN mission could be more effective and efficient. More recently, he has taken up the cause of removing land mines and expects to be appointed to a presidential commission now being formed to address

the issue. "Land mines can be r ved, but it's a painstaking, expensive process. I've be... working to galvanize financing and expertise to get them taken out," he notes.

At competitive local exchange carrier WinStar (New York), Rouhana is also championing a cause. The 45-year-old former media and entertainment lawyer and merchant banker hopes to make his mark as the one who brought the information superhighway to America's front door. "What I believe WinStar is doing is moving the information superhighway forward," Rouhana explains. "We're really building it. Before we came along, the ability to create that superhighway was more difficult to do and much less likely to happen."

Rouhana's five-year-old company is one of many competitors battling to gain market share in the local exchange. But rather than laying fiber in the ground, WinStar is staging an air strike through its more than 275 38-GHz wireless licenses covering more than 190 million people. Currently, WinStar is offering competitive services in 21 major markets, and it expects to be in a total of 30 by the end of this year. WinStar's "wireless fiber" delivers point-to-point broadband service to business customers over pizza pan–sized dishes, with reliability comparable to landline fiber optic networks. Last month the company began a trial of point-to-multipoint service in the Washington, D.C., area. In the trial, WinStar is overlaying its existing point-to-point network with three hub sites connecting more than four buildings. This technology, Rouhana believes, is how the broadband service will ultimately reach the residential market.

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Not only does WinStar have the network infrastructure to support the infobahn, it also is developing content for educational institutions and small and midsize businesses. Its award-winning Tidal Passages, an interactive educational Web site (www.tidalpassages.com) that is chronicling the around-the-world voyage of a sailing ship, was created as part of Community School Network Inc. (CSNet). CSNet, which WinStar purchased in October 1997 and renamed WinStar for Education, is a provider of Internet access and specialized software for schools and libraries. There is also WinStar Telebase Inc. (Wayne, Pa.), an Internet service purchased by WinStar in September 1997 that gives small-budget businesses access to more than 500 databases—including Dun & Bradstreet, TRW, and trademark searches—and charges customers on a per-usage basis. Typically, these services are out of reach for smaller companies, which couldn't afford the minimum monthly fees.

Rouhana spoke recently at WinStar's headquarters with **tele.com** services editor Gail Lawyer.

How did you get involved with the United Nations? I've always been interested in international affairs and government. I was very interested in the UN because I thought it was an underutilized vehicle that could be made more effective. Starting in early 1990, I volunteered to travel to the various peacekeeping o tions around the world and sit on a task force that would ..ggest better ways for the UN to do peacekeeping. At that time, there was a real jump in the number of peacekeeping operations. The UN felt overwhelmed, so they were looking for people to help them figure out how to do it more efficiently. I became a board member of the United Nations Association, a not-for-profit organization.

What does the work with the UN consist of? It's almost like being a consultant. I think being a businessperson gives me a special perspective. My particular interest is trying to figure out what's going to happen afterward. I'd like to see there be a permanent peace in these places and economic development.

When did you become interested in advancing the information superhighway concept? In the late '80s I began to understand that information, communication, and computers were going to come together in a meaningful way. At the same time, people started talking about this "information superhighway" idea. I thought it was one of the most incredible things I'd ever heard. Imagine five billion people on a planet sharing what they know. There would be an explosion of learning, more progress, more goods and services created, and we would be better educated and entertained. The fact that a broadband network was being created that would allow us to share what we know was incredible. Think about all the possibilities—distance learning, telemedicine. If all of this could become a reality, it could be the single most important thing that happened while we were alive. I bought into that dream. I wanted to be a part of it. With my entertainment and communications background, I wanted to play a role. I got very frustrated in the early 1990s when I saw big companies trying to figure out how to do this information superhighway and making a mess out of it.

WinStar has both network and content businesses. If the giant companies couldn't make this work, how can you? It's about corporate culture. The reason Bell Atlantic and TCI [Tele-Communications Inc.] didn't make it work wasn't because it didn't make intellectual sense. They had two very different cultures that could not coexist. To do it, you had to create a new kind of culture that could pull together networking, computer technology, and content in one place. Those are different skills, but they don't automatically come with different cultures. That just happens when you have existing operations that have different cultures. We started from day one knowing this is where we wanted to be. It was accepted from the very beginning that this is what we were doing, and these people could work together.

What are the advantages of being both a provider of content and an infrastructure? We seem more valuable in some way. When we sell the content to customers, if they're accessing it a lot, what are they doing? They're buying bandwidth

from us. That's what we sell. So we're driving the use of our network.

Is it hard to sell a package of network services and content? No. There's a fascinatingly receptive market. Everybody wants it. But nobody knows how to get it, so we're helping. You could summarize our business plan by saying we're building a broadband network and teaching people how to use it. We want to be partners with our customers in helping them be more productive.

When you founded WinStar Communications in 1993, what was your biggest challenge? When I decided to start a convergence company, I realized the problem was "where's the bandwidth?" There's plenty of it out there between switches. But when you looked at what was between switches and people it was copper, and that isn't broadband. No matter how hard they try to turn copper into gold, alchemy does not work, and even the regional Bell companies are not going to be able to do that. So we asked, "What could create that broadband connection between people and the backbone network?" That was the problem I wanted to solve, because I knew if I could solve that problem, the rest would fall into place. The computer technology existed, and the content was there.

BUSINESS PLAN: "You could say that we're building a broadband network and teaching people how to use it."

How did you come up with the game plan to deliver broadband services via 38-GHz spectrum? Over the last three months of 1993, I looked seriously at 75 or 80 different ways that people thought could solve this problem. There were all kinds of weird things, from employing early forms of DSL [digital subscriber loop] technology to using narrowband wireless solutions in a fixed way. I couldn't find the bandwidth in any of those things that would solve the problem long term. Then I received this little business plan from Leo George [a former MCI Corp. attorney who worked with MCI cofounder Bill McGowan]. He was seeking financing for his company, which would own 38-GHz licenses to connect PCS cell sites. I read the plan, but I wasn't too excited about the idea. Yet there were two lines in this 12-page plan that haunted me for 24 hours. I couldn't sleep the whole night. It said that "38 GHz is the functional equivalent of fiber optics in bandwidth and throughput, and it's reliable 99.999 percent of the time." I kept thinking that, if this is true, shouldn't we use this to extend the fiber optic network?

Weren't there initially concerns about the reliability of this technology? I checked in Europe with the folks who were already using 38 GHz, and it came back with a perfect record. Everybody in the United States thought it wouldn't work in the rain. So I asked the people in England, "Does it ever rain there?" They said, "Occasionally." I asked if this stuff works. They said, "Are you crazy? Do you think we would use it if it didn't work?" At that time, people had old information about the quality of the technology. They didn't realize in the late 1980s our government was perfecting the use of super-high frequencies for the smart bomb program. When we watched that dazzling Iraq war, those bombs were controlled at 40 GHz. The government spent hundreds of millions of dollars moving this technology to the point that it was basically perfect.

Now WinStar is the largest holder of 38-GHz licenses. Is it possible for newcomers or existing broadband wireless license holders, such as Advanced Radio Telecom Corp. and Teligent Inc., to achieve the scope that WinStar has? Spectrum is now a scarcity. People have told me for a long time that there's plenty of spectrum, but I want to know where else substantial amounts of broadband spectrum exist and how someone is going to re-create what we have. We have significant spectrum—an average of 740 MHz across the entire top 50 markets in the United States. I can't see how anyone else can do it.

It's been said that wireless broadband is only a temporary solution until fiber is built out to end-users. That's not true. That's an old wives' tale that somebody started one day, and it's taken on a life of its own. Ultimately people will ask, "Why build fiber to a building?" It makes no economic sense. It's too expensive. There's no building in this country that justifies the expense of fiber. It's foolish.

WinStar was the third-largest bidder in the Federal Communications Commission's recent LMDS [local multipoint distribution service] auctions, taking home 15 licenses covering six major markets. But more than 100 licenses remained unsold. Why was there such a lack of interest in this auction? The way it was handled, it was destined to be a failure. There was only a limited group of companies that could bid on the licenses: local telcos, cable companies, long-distance carriers, big foreign companies, and designated entities. The local phone companies were told they could only bid outside their region. The cable guys had the same restriction. That's not exciting. The long-distance carriers were somewhat preoccupied with their merger activities. The large foreign PTTs were only given the right on Jan. 1, 1998, to come into the States and own any meaningful wireless licenses. They had 30 days to get ready for this auction, and they're not 30-day kinds of movers. That left the designated entities, which, by definition, are supposed to be small companies. But no more than 60 days before the auction, the FCC changed the rules. When you looked at the rules, the only way you could get a discount was if you didn't have any money, but if you didn't have any money, how could you bid on the licenses? They basically told everyone who might bid to forget it.

Did you get LMDS licenses to cover all the markets that you wanted? We got just about all that we wanted. We had a target list that included seven of the top 50 markets. We got six

of them. The seventh we didn' , it was the 50th of the top 50 markets—Middlesex County, N.J.—and it'll just have to wait for WinStar to get there. But we'll be there eventually.

What was your bidding strategy? I wanted to fill in coverage gaps in existing markets. I was hopeful that no one else would emerge from the auctions with 50 markets, because we're the only company in the country that has substantial bandwidth in all of the top 50 markets. This is an enormous competitive advantage over anyone else. As it turned out, that's the way it ended up.

You paid $43.4 million for the 15 licenses. It was a bargain.

How does this compare to what you paid for 38-GHz licenses? Ironically, it's very close to what we were paying for the 38-GHz spectrum. We paid about 45 cents a channel pop [population] for the top 50 market spectrum. We paid 43 cents a channel pop for the 28-GHz spectrum in this auction. It shouldn't have gone for that. If you look at the markets where it was contested, the average cost per pop was a couple of dollars. But for most of the places there weren't enough bidders and there wasn't enough money.

Some press reports indicate you're looking for a buyer for WinStar. Is that the case? You could read in the *Wall Street Journal* that I can't wait to sell the company, and on Dow Jones that I'll never sell the company. The truth is I think that WinStar has an incredible future because there's nobody like us in the country. We have $900 million in cash available to build our business. We're proving that wireless broadband is the key to the local loop. I want the opportunity to build this company because I believe we have the right idea, unique assets, and are uniquely positioned. But I'm chairman and CEO of a public company. That means I have a fiduciary responsibility to shareholders to maximize value. So if somebody comes to us, I have to at least listen. That's exactly the answer that I gave to everybody who's ever asked me. I don't want to sell it. But if an offer that shareholders are entitled to accept is made,then I'm going to meet my fiduciary duties.

AUCTION BLOCKED:

"I was hopeful that no one else would emerge from the auction with 50 markets.... That's the way it ended up."

Last month WinStar began a massive test of point-to-multipoint service in the Washington, D.C., area. What are the benefits of this technology? Multipoint technology does a lot of things. It drives down the cost of the network very significantly. It makes it easier to install, because once you put in the point, you don't have to work on the sender anymore. You only have to work on the receiving end. It allows us to deliver bandwidth on demand. Inside a sector we can allocate a certain amount of bandwidth and then shift it between users. It's a much more efficient use of spectrum. We are creating the first distributed data network that is local, ATM based, ar s bandwidth on demand to the customer premises.

How much will point-to-multipoint reduce WinStar's costs? It will bring our costs down to $4,000 per building now in the commercial marketplace. Point-to-point costs about $15,000 per building. We amortize the cost over 100 months, so our capital costs to add a building to our network will go down to $40 a month. Can you think of many commercial customers from whom we can't recover $40 a month in capital costs? Wireless fiber is the one shot at ubiquitous deployment of a broadband network that this country has. We're going to make sure everybody gets it.

What does the D.C. trial involve? It's much more than a trial. It's three interconnected hubs, connecting many customers. It's data, Internet, voice, MPEG-delivered video. It's the most extensive deployment of multipoint technology on the planet. This is far more than the trial Teligent is doing in California or we're doing in Florida. This is a customer thing; it's really live. This is the last step before commercial deployment.

Will point-to-multipoint technology be the way you ultimately reach the residential market? Obviously, it's starting in the business community, but it's going to be a key to residential service. The receivers are smaller than a direct broadcast satellite antenna and can bring voice, video, and data. It's symmetrical bandwidth. We're going to see people increasingly using the computer power they have at home and at the desktop to create things that require bandwidth out, as well as in.

When do you plan to enter the residential market? Sometime in the next couple of years, we'll try to figure out the right partners to implement a massive residential effort. I don't think WinStar can do it alone. There are too many customer care, installation, and branding issues that are beyond us. But we can use our wireless fiber with a big partner to get into the residential market. We may need equipment, installation, and brand partners to bring the information superhighway to people's homes. That's our goal.

Has the work you've been doing with the United Nations had an impact on your business style? I think I'm a better manager because I help other people become better managers. Plus, getting away from things and having a little distance is a great way to recalibrate and figure out how to do things right again. Every single time I went on one of these trips and came back, I saw that I did my job better. I just learned something, but I couldn't really tell you what it was. ●

GAIL LAWYER *is services editor for* tele.com. *She can be reached over the internet at gail_lawyer@mcgraw-hill.com.*

WinStar Pushes Wireless Option For Local Calls

By Reinhardt Krause
Investor's Business Daily

WinStar Communications Inc. could hit the jackpot — if its bet on acquiring wireless licenses in local phone markets pays off.

New York-based WinStar owns more high-frequency radio spectrum in local markets than any other firm. Early this year, it acquired new licenses in the 28-gigahertz frequency to fill out its wireless portfolio.

By installing rooftop antennas on commercial buildings, WinStar targets business customers that belong to the regional Bells. One advantage is that its services can be deployed faster than costly fiber-optic networks.

WinStar last month began testing a more advanced broadband network in Washington. Its local multipoint distribution services, or LMDS, network offers Internet access and can transmit audio, video and high-speed data.

WinStar last week announced plans to buy a 14.9% stake in another wireless player, Advanced Radio Telecom Corp. That company also is readying a wireless system for high-speed data services.

William Rouhana, WinStar's chairman and CEO, recently spoke with *IBD* about how his wireless company hopes to enter local phone markets.

Q&A

- **William J. Rouhana**
- WinStar Communications Inc.
- Chairman and CEO
- 45 years old
- B.A., government, Colby College; law degree, Georgetown University

IBD: *What role does a firm like WinStar have in opening local phone markets to more competition?*

Rouhana: There really are only two meaningful ways to attack local-market monopolies. One is by building fiber-optic networks; the other is using fixed wireless broadband — what we do. Fiber-optic carriers, over the past 10 years or so, have only managed to get to about 7,000 or 8,000 buildings in the entire U.S. We're already at 2,000 and expect to be in 8,000 by the end of 1999.

IBD: *Haven't other wireless firms like WinStar been acquired by companies with fiber-optic networks?*

Rouhana: We've been pretty consistent in saying that our objective is building our business, not to sell it. We think we can create more shareholder value that way. But that doesn't mean we can't partner with a large company to help them accelerate their business communication links. That's something we're always discussing.

IBD: *How do you think the regional Bells have responded to the Telecommunications Act of '96?*

Rouhana: I've coined a phrase called strategic incompetence. It seems to me that the Bells have reacted in a variety of ways, some regulatory and some day to day. On a day-to-day basis, they've made it difficult to interconnect with them or to use them for resale, and that's the strategic incompetence. They just have a way of not doing things well when it comes to putting customers on (their network) for their competitors.

IBD: *How does a wireless company like WinStar get a foot in the door with business customers?*

Rouhana: It depends on the market segment. For the small and medium businesses, we try to help them understand how to use the telecom network to create more value. There is also a price difference with the regional Bell operating

Continued on Page A26

WinStar Pushes Wireless Option

Continued from Page A8

company, usually about 10% to 20% less.

For large accounts, we emphasize the wireless aspect of our service: the fact that it gives them flexibility and that they can be sure critical communications functions will be there no matter what happens to the wireline network.

IBD: *Your business model relies on acquiring roof rights. How difficult are they to get?*

Roukema: Surprisingly, the process has been getting easier. We've learned how to communicate with landlords the advantages we bring to their tenants by bringing broadband communications to buildings. Unlike a PCS (digital cellular) operator, who landlords view as an entity providing a service to people walking by their building, they view us as someone providing a tenant amenity.

For a building right, we can (pay) in the low hundreds of dollars per month. Sometimes we get them for free.

IBD: *What's different about the LMDS network that WinStar is testing in Washington than your earlier systems?*

Roukema: There's a physical difference in that the (LMDS systems) have one radio at the hub, or a grouping of buildings, whereas the existing point-to-point systems have a separate radio at the hub site for each radio at a customer building.

From our point of view, it's less costly equipment to install. For customers, there are different services, such as bandwidth on demand, which allows them to buy the amount of bandwidth they need, when they need it.

IBD: *Will your customer focus shift to more residential buildings as LMDS systems are built?*

Roukema: It won't shift in emphasis, but there is a time in the not too distant future in which we see the ability to service residential customers in addition to businesses because of the cost efficiencies of multipoint technology.

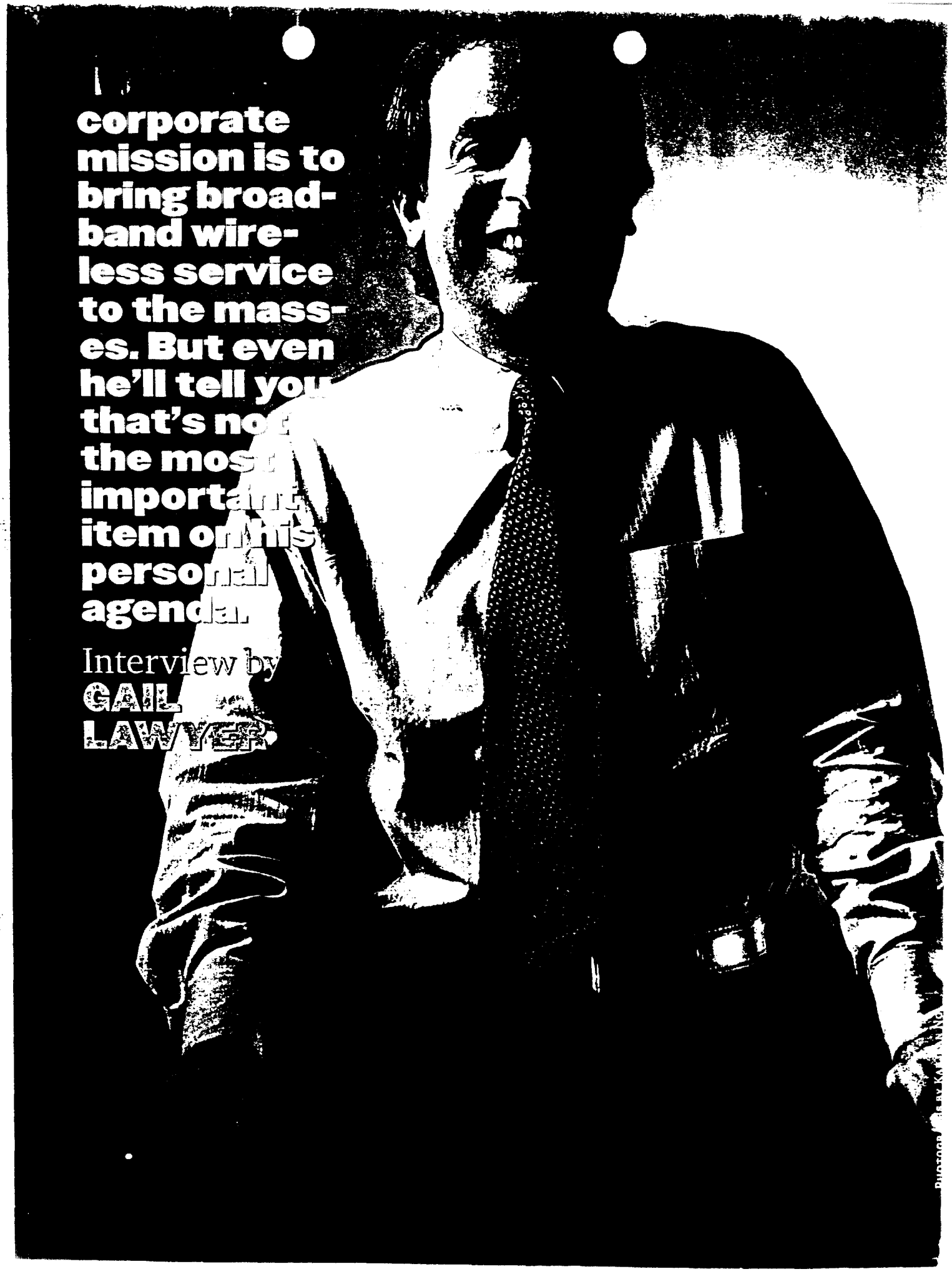
IBD: *Don't some analysts still question whether LMDS technology can be commercially deployed?*

Roukema: We have up and running a full-scale multipoint network that's completely integrated with the rest of the communications network. From our point of view, the technology risk associated with multipoint has really been addressed, and we think it works just fine.

By the time 1999 ends, I hope that every hub site we have built, which will be covering the top 40 markets by then, will have both point-to-point and multipoint capacity available to our customers.

IBD: *Aren't some start-ups, such as Teligent Inc., targeting the same space as WinStar?*

Roukema: Our lead is very extensive. It's measured in years, not months. The No. 1 thing a company has to do in this business is to build the system that integrates the broadband wireless into the rest of the telecom network. It's not enough to put radios out there. You've got to build, provision, monitor —



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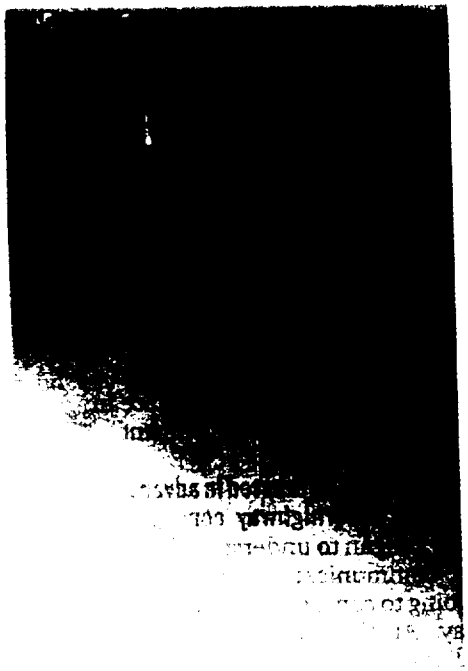

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What does the work with the UN consist of? It's almost like being a consultant. I think being a businessperson gives me a special perspective. My particular interest is trying to figure out what's going to happen afterward. I'd like to see there be a permanent peace in these places and economic development.

When did you become interested in advancing the information superhighway concept? In the late '80s I began to understand that information, communication, and computers were going to come together in a meaningful way. At the same time, people started talking about this "information superhighway" idea. I thought it was one of the most incredible things I'd ever heard. Imagine five billion people on a planet sharing what they know. There would be an explosion of learning, more progress, more goods and services created, and we would be better educated and entertained. The fact that a broadband network was being created that would allow us to share what we know was incredible. Think about all the possibilities—distance learning, telemedicine. If all of this could become a reality, it could be the single most important thing that happened while we were alive. I bought into that dream. I wanted to be a part of it. With my entertainment and communications background, I wanted to play a role. I got very frustrated in the early 1990s when I saw big companies trying to figure out how to do this information superhighway and making a mess out of it.

WinStar has both network and content businesses. If the giant companies couldn't make this work, how can you? It's about corporate culture. The reason Bell Atlantic and TCI [Tele-Communications Inc.] didn't make it work wasn't because it didn't make intellectual sense. They had two very different cultures that could not coexist. To do it, you had to create a new kind of culture that could pull together networking, computer technology, and content in one place. Those are different skills, but they don't automatically come with different cultures. That just happens when you have existing operations that have different cultures. We started from day one knowing this is where we wanted to be. It was accepted from the very beginning that this is what we were doing, and these people could work together.

What are the advantages of being both a provider of content and an infrastructure? We seem more valuable in some way. When we sell the content to customers, if they're accessing it a lot, what are they doing? They're buying bandwidth

from us. That's what we sell. So we're driving the use of our network.

Is it hard to sell a package of network services and content? No. There's a fascinatingly receptive market. Everybody wants it. But nobody knows how to get it, so we're helping. You could summarize our business plan by saying we're building a broadband network and teaching people how to use it. We want to be partners with our customers in helping them be more productive.

When you founded WinStar Communications in 1993, what was your biggest challenge? When I decided to start a convergence company, I realized the problem was "where's the bandwidth?" There's plenty of it out there between switches. But when you looked at what was between switches and people it was copper, and that isn't broadband. No matter how hard they try to turn copper into gold, alchemy does not work, and even the regional Bell companies are not going to be able to do that. So we asked, "What could create that broadband connection between people and the backbone network?" That was the problem I wanted to solve, because I knew if I could solve that problem, the rest would fall into place. The computer technology existed, and the content was there.

BUSINESS PLAN: "You could say that we're building a broadband network and teaching people how to use it."

How did you come up with the game plan to deliver broadband services via 38-GHz spectrum? Over the last three months of 1993, I looked seriously at 75 or 80 different ways that people thought could solve this problem. There were all kinds of weird things, from employing early forms of DSL [digital subscriber loop] technology to using narrowband wireless solutions in a fixed way. I couldn't find the bandwidth in any of those things that would solve the problem long term. Then I received this little business plan from Leo George [a former MCI Corp. attorney who worked with MCI cofounder Bill McGowan]. He was seeking financing for his company, which would own 38-GHz licenses to connect PCS cell sites. I read the plan, but I wasn't too excited about the idea. Yet there were two lines in this 12-page plan that haunted me for 24 hours. I couldn't sleep the whole night. It said that "38 GHz is the functional equivalent of fiber optics in bandwidth and throughput, and it's reliable 99.999 percent of the time." I kept thinking that, if this is true, shouldn't we use this to extend the fiber optic network?

Weren't there initially concerns about the reliability of this technology? I checked in Europe with the folks who were already using 38 GHz, and it came back with a perfect record. Everybody in the United States thought it wouldn't work in the rain. So I asked the people in England, "Does it ever rain there?" They said, "Occasionally." I asked if this stuff works. They said, "Are you crazy? Do you think we would use it if it didn't work?" At that time, people had old information about the quality of the technology. They didn't realize that in the late 1980s our government was perfecting the use of super-high frequencies for the smart bomb program. When we watched that dazzling Iraq war, those bombs were controlled at 40 GHz. The government spent hundreds of millions of dollars moving this technology to the point that it was basically perfect.

Now WinStar is the largest holder of 38-GHz licenses. Is it possible for newcomers or existing broadband wireless license holders, such as Advanced Radio Telecom Corp. and Teligent Inc., to achieve the scope that WinStar has? Spectrum is now a scarcity. People have told me for a long time that there's plenty of spectrum, but I want to know where else substantial amounts of broadband spectrum exist and how someone is going to re-create what we have. We have significant spectrum—an average of 740 MHz across the entire top 50 markets in the United States. I can't see how anyone else can do it.

It's been said that wireless broadband is only a temporary solution until fiber is built out to end-users. That's not true. That's an old wives' tale that somebody started one day, and it's taken on a life of its own. Ultimately people will ask, "Why build fiber to a building?" It makes no economic sense. It's too expensive. There's no building in this country that justifies the expense of fiber. It's foolish.

WinStar was the third-largest bidder in the Federal Communications Commission's recent LMDS [local multipoint distribution service] auctions, taking home 15 licenses covering six major markets. But more than 100 licenses remained unsold. Why was there such a lack of interest in this auction? The way it was handled, it was destined to be a failure. There was only a limited group of companies that could bid on the licenses: local telcos, cable companies, long-distance carriers, big foreign companies, and designated entities. The local phone companies were told they could only bid outside their region. The cable guys had the same restriction. That's not exciting. The long-distance carriers were somewhat preoccupied with their merger activities. The large foreign PTTs were only given the right on Jan. 1, 1998, to come into the States and own any meaningful wireless licenses. They had 30 days to get ready for this auction, and they're not 30-day kinds of movers. That left the designated entities, which, by definition, are supposed to be small companies. But no more than 60 days before the auction, the FCC changed the rules. When you looked at the rules, the only way you could get a discount was if you didn't have any money, but if you didn't have any money, how could you bid on the licenses? They basically told everyone who might bid to forget it.

Did you get LMDS licenses to cover all the markets that you wanted? We got just about all that we wanted. We had a target list that included seven of the top 50 markets. We got six

of them. The seventh we didn' , it was the 50th of the top 50 markets—Middlesex County, N.J.—and it'll just have to wait for WinStar to get there. But we'll be there eventually.

What was your bidding strategy? I wanted to fill in coverage gaps in existing markets. I was hopeful that no one else would emerge from the auctions with 50 markets, because we're the only company in the country that has substantial bandwidth in all of the top 50 markets. This is an enormous competitive advantage over anyone else. As it turned out, that's the way it ended up.

You paid $43.4 million for the 15 licenses. It was a bargain.

How does this compare to what you paid for 38-GHz licenses? Ironically, it's very close to what we were paying for the 38-GHz spectrum. We paid about 45 cents a channel pop [population] for the top 50 market spectrum. We paid 43 cents a channel pop for the 28-GHz spectrum in this auction. It shouldn't have gone for that. If you look at the markets where it was contested, the average cost per pop was a couple of dollars. But for most of the places there weren't enough bidders and there wasn't enough money.

Some press reports indicate you're looking for a buyer for WinStar. Is that the case? You could read in the *Wall Street Journal* that I can't wait to sell the company, and on Dow Jones that I'll never sell the company. The truth is I think that WinStar has an incredible future because there's nobody like us in the country. We have $900 million in cash available to build our business. We're proving that wireless broadband is the key to the local loop. I want the opportunity to build this company because I believe we have the right idea, unique assets, and are uniquely positioned. But I'm chairman and CEO of a public company. That means I have a fiduciary responsibility to shareholders to maximize value. So if somebody comes to us, I have to at least listen. That's exactly the answer that I gave to everybody who's ever asked me. I don't want to sell it. But if an offer that shareholders are entitled to accept is made, then I'm going to meet my fiduciary duties.

AUCTION BLOCKED:

"I was hopeful that no one else would emerge from the auction with 50 markets.... That's the way it ended up."

Last month WinStar began a massive test of point-to-multipoint service in the Washington, D.C., area. What are the benefits of this technology? Multipoint technology does a lot of things. It drives down the cost of the network very significantly. It makes it easier to install, because once you put in the point, you don't have to work on the sender anymore. You only have to work on the receiving end. It allows us to deliver bandwidth on demand. Inside a sector we can allocate a certain amount of bandwidth and then shift it between users. It's a much more efficient use of spectrum. We are creating the first distributed data network that is local, ATM based, ar s bandwidth on demand to the customer premises.

How much will point-to-multipoint reduce WinStar's costs? It will bring our costs down to $4,000 per building now in the commercial marketplace. Point-to-point costs about $15,000 per building. We amortize the cost over 100 months, so our capital costs to add a building to our network will go down to $40 a month. Can you think of many commercial customers from whom we can't recover $40 a month in capital costs? Wireless fiber is the one shot at ubiquitous deployment of a broadband network that this country has. We're going to make sure everybody gets it.

What does the D.C. trial involve? It's much more than a trial. It's three interconnected hubs, connecting many customers. It's data, Internet, voice, MPEG-delivered video. It's the most extensive deployment of multipoint technology on the planet. This is far more than the trial Teligent is doing in California or we're doing in Florida. This is a customer thing; it's really live. This is the last step before commercial deployment.

Will point-to-multipoint technology be the way you ultimately reach the residential market? Obviously, it's starting in the business community, but it's going to be a key to residential service. The receivers are smaller than a direct broadcast satellite antenna and can bring voice, video, and data. It's symmetrical bandwidth. We're going to see people increasingly using the computer power they have at home and at the desktop to create things that require bandwidth out, as well as in.

When do you plan to enter the residential market? Sometime in the next couple of years, we'll try to figure out the right partners to implement a massive residential effort. I don't think WinStar can do it alone. There are too many customer care, installation, and branding issues that are beyond us. But we can use our wireless fiber with a big partner to get into the residential market. We may need equipment, installation, and brand partners to bring the information superhighway to people's homes. That's our goal.

Has the work you've been doing with the United Nations had an impact on your business style? I think I'm a better manager because I help other people become better managers. Plus, getting away from things and having a little distance is a great way to recalibrate and figure out how to do things right again. Every single time I went on one of these trips and came back, I saw that I did my job better. I just learned something, but I couldn't really tell you what it was. ●

GAIL LAWYER *is services editor for* tele.com. *She can be reached over the internet at gail_lawyer@mcgraw-hill.com.*

WinStar Pushes Wireless Option For Local Calls

By Reinhardt Krause
Investor's Business Daily

WinStar Communications Inc. could hit the jackpot — if its bet on acquiring wireless licenses in local phone markets pays off.

New York-based WinStar owns more high-frequency radio spectrum in local markets than any other firm. Early this year, it acquired new licenses in the 28-gigahertz frequency to fill out its wireless portfolio.

By installing rooftop antennas on commercial buildings, WinStar targets business customers that belong to the regional Bells. One advantage is that its services can be deployed faster than costly fiber-optic networks.

WinStar last month began testing a more advanced broadband network in Washington. Its local multipoint distribution services, or LMDS, network offers Internet access and can transmit audio, video and high-speed data.

WinStar last week announced plans to buy a 14.9% stake in another wireless player, Advanced Radio Telecom Corp. That company also is readying a wireless system for high-speed data services.

William Rouhana, WinStar's chairman and CEO, recently spoke with *IBD* about how his wireless company hopes to enter local phone markets.

Q&A

- **William J. Rouhana**
- WinStar Communications Inc.
- Chairman and CEO
- 45 years old
- B.A., government, Colby College; law degree, Georgetown University

IBD: *What role does a firm like WinStar have in opening local phone markets to more competition?*

Rouhana: There really are only two meaningful ways to attack local-market monopolies. One is by building fiber-optic networks; the other is using fixed wireless broadband — what we do. Fiber-optic carriers, over the past 10 years or so, have only managed to get to about 7,000 or 8,000 buildings in the entire U.S. We're already at 2,000 and expect to be in 8,000 by the end of 1999.

IBD: *Haven't other wireless firms like WinStar been acquired by companies with fiber-optic networks?*

Rouhana: We've been pretty consistent in saying that our objective is building our business, not to sell it. We think we can create more shareholder value that way. But that doesn't mean we can't partner with a large company to help them accelerate their business communication links. That's something we're always discussing.

IBD: *How do you think the regional Bells have responded to the Telecommunications Act of '96?*

Rouhana: I've coined a phrase called strategic incompetence. It seems to me that the Bells have reacted in a variety of ways, some regulatory and some day to day. On a day-to-day basis, they've made it difficult to interconnect with them or to use them for resale, and that's the strategic incompetence. They just have a way of not doing things well when it comes to putting customers on (their network) for their competitors.

IBD: *How does a wireless company like WinStar get a foot in the door with business customers?*

Rouhana: It depends on the market segment. For the small and medium businesses, we try to help them understand how to use the telecom network to create more value. There is also a price difference with the regional Bell operating

Continued on Page A26

WinStar Pushes Wireless Option

Continued from Page A8

company, usually about 10% to 20% less.

For large accounts, we emphasize the wireless aspect of our service: the fact that it gives them flexibility and that they can be sure critical communications functions will be there no matter what happens to the wireline network.

IBD: *Your business model relies on acquiring roof rights. How difficult are they to get?*

Roukema: Surprisingly, the process has been getting easier. We've learned how to communicate with landlords the advantages we bring to their tenants by bringing broadband communications to buildings. Unlike a PCS (digital cellular) operator, who landlords view as an entity providing a service to people walking by their building, they view us as someone providing a tenant amenity.

For a building right, we can (pay) in the low hundreds of dollars per month. Sometimes we get them for free.

IBD: *What's different about the LMDS network that WinStar is testing in Washington than your earlier systems?*

Roukema: There's a physical difference in that the (LMDS systems) have one radio at the hub, or a grouping of buildings, whereas the existing point-to-point systems have a separate radio at the hub site for each radio at a customer building.

From our point of view, it's less costly equipment to install. For customers, there are different services, such as bandwidth on demand, which allows them to buy the amount of bandwidth they need, when they need it.

IBD: *Will your customer focus shift to more residential buildings as LMDS systems are built?*

Roukema: It won't shift in emphasis, but there is a time in the not too distant future in which we see the ability to service residential customers in addition to businesses because of the cost efficiencies of multipoint technology.

IBD: *Don't some analysts still question whether LMDS technology can be commercially deployed?*

Roukema: We have up and running a full-scale multipoint network that's completely integrated with the rest of the communications network. From our point of view, the technology risk associated with multipoint has really been addressed, and we think it works just fine.

By the time 1999 ends, I hope that every hub site we have built, which will be covering the top 40 markets by then, will have both point-to-point and multipoint capacity available to our customers.

IBD: *Aren't some start-ups, such as Teligent Inc., targeting the same space as WinStar?*

Roukema: Our lead is very extensive. It's measured in years, not months. The No. 1 thing a company has to do in this business is to build the system that integrates the broadband wireless into the rest of the telecom network. It's not enough to put radios out there. You've got to build, provision, monitor —

Hello, You've Reached The **Future**

WinStar Communications provides broadband telecommunications services to customers in major metropolitan markets throughout the United States. The company's integrated data and voice network, utilizing fixed wireless circuits in the 38 GHz band, can deliver high-speed communications to thousands of buildings and customers not being served by other broadband communications carriers.

WinStar's 38 GHz spectrum licenses represent the largest single holding of bandwidth in the U.S. They enable the company to quickly and cost efficiently extend its wireless broadband network to customer buildings. WinStar's spectrum licenses cover all 50 of the largest markets in the country, and more than 100 other cities, encompassing a total population of approximately 200 million.

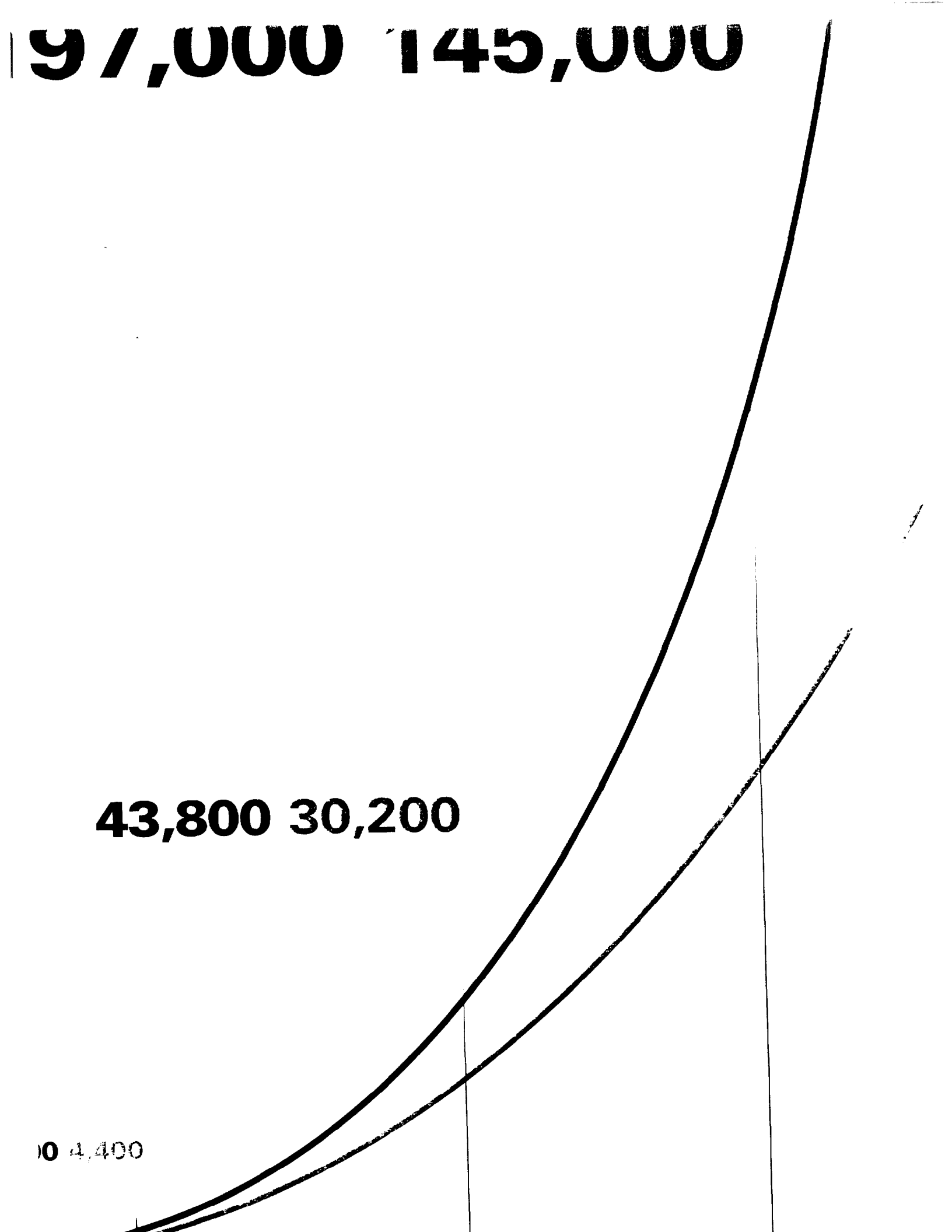
WinStar's services are marketed through a rapidly growing direct sales force and service organization of more than 800 professionals. The company is passionate about customer satisfaction, and emphasizes individual solutions to telecommunications needs backed by personal service, the most advanced information systems and a network which is establishing new benchmarks for reliability.

Beyond providing local, long distance, broadband data and Internet services, WinStar develops specialized valued-added information content for customers linked to its digital network and for other users. The company's broadband network capacity enables customers to efficiently access this information.

The company employs more than 2,200 people and is headquartered in New York City.

March 31, 1998

Annualized Revenues	$230 million
Cumulative CLEC Lines Installed	148,000
Cumulative CLEC Lines Ordered	199,000
Customers with Installed Lines	7,100
Markets Served	21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To Our Stockholders, Employees and Customers

WILLIAM J. ROUHANA, JR.

In 1997, we got our first view of just how vast the demand for broadband telecommunications capacity is in the U.S., and how uniquely positioned WinStar is to meet this demand and translate it into a meaningful business opportunity.

Our accomplishments over the past year extended to every corner of the company. They highlighted the superiority of our Wireless Fiber ™ solution for extending fiber networks, and they propelled us to a position where we are ready to grow our business significantly. By year end, we had gained the critical mass of people, systems, network and marketing firepower necessary to establish a large and successful phone company. The investment community began to take active

"Our employees are totally committed to WinStar's mission: bringing people into the information age through high-quality wireless broadband services, and helping our customers use our network to productively share information with each other."

WILLIAM J. ROUHANA, JR.
CHAIRMAN & CHIEF EXECUTIVE OFFICER

more than tripled since I last wrote to you. Although we were pleased by this turn of events, we believe WinStar's current stock price has only begun to reflect the true value of our company.

A Strong Emphasis on Rapid & Robust Growth

The major expansion of WinStar's network over the past year shows our strong emphasis on rapid growth. Today, WinStar is offering services in 21 major metropolitan markets, in contrast to one at the close of 1996. By the end of 1998, we expect to provide switched services in 30 cities, 12 months ahead of our original schedule.

Our network is not only larger than it was a year ago, it's far more robust, providing for the high-speed transport of broadband data and voice traffic. In January 1998, we acquired GoodNet, a Tier I Internet service provider with a national backbone and points-of-presence in 27 cities across the country. We are incorporating its network of ATM data switches into our national local network. We also acquired the PacNet data network the same month, adding 17 frame relay switches plus a direct connection to the Unispan consortium which routes frame relay traffic throughout the U.S. and internationally. Now WinStar can provide customers with a choice of Internet, ATM and frame relay modes of data transmission, in addition to a full complement of local and long distance voice services.

WinStar's network will further evolve in 1998, as we take steps to aggregate voice and data traffic onto a leased long distance fiber backbone that will interconnect *all* our switches. We should realize substantial economies and efficiencies from this integration.

Using a Successful & Superior Networking Model

We believe that our fixed wireless broadband solution for networking customer buildings is clearly superior to the approach used by companies that rely on fiber-based connections. There are several key reasons for this: our lower deployment costs, our ability to reach thousands of buildings that fiber cannot serve economically, and the high percentage of customer traffic we'll be able to carry on our own network. We estimate that, over time, at least two thirds of our lines will be on our own network, and therefore unaffected by provisioning systems and cost issues impacting lines leased from the incumbent local exchange carrier. These on-net lines will give us excellent profitability and greater control over the type and quality of service we provide to customers.

Our recent experience in our first market, New York City, demonstrates that our model works, and works exceptionally well. We began by reselling long distance services while we were building our switch, establishing hub sites and obtaining roof rights. We then gradually moved an increasing percentage of our lines onto our network as it was built. By year-end 1997, 13 months after we launched our service, more than 50% of our New York lines were on our own network; and an even greater percentage of lines were installed on our Lucent 5ESS switch. We expect this experience to be repeated in each of our cities as WinStar extends its network to a total of 40 markets by the end of 1999.

Extending Our Service Capabilities to the 50 Largest U.S. Markets

The value of our radio spectrum holdings, which represent WinStar's core asset, was substantially enhanced in 1997 and early 1998. This came about through the addition of new spectrum licenses, and favorable rulings from the FCC on how we can use our spectrum. In the fall of 1997, the FCC set out new rules permitting 38 GHz licensees to hold up to the full 1,400 MHz of

spectrum available in a given market, while also allowing utilization of that spectrum for a wide range of fixed or mobi communications services.

As a result of license acquisitions, grants, and our participation in the LMDS auction, WinStar's potential service ar has been extended to include all 50 of the largest U.S. markets. Our bandwidth holdings in those key markets now avera approximately 740 MHz. WinStar's coverage area encompasses *more than 200 million people* and over one billion channel po (covered population times the number of 100 MHz equivalent channels).

Setting a New Standard with a Point-to-Multipoint System

The competitive value and utility of our spectrum holdings will be further enhanced beginning in the latter part of 1998, when we expect to start deploying our point-to-multipoint wireless network on a commercial basis. This is a major development for the company and an entirely new paradigm for our industry.

Point-to-multipoint systems will enable us to install radios with 155 Mbps data rates and higher on a customer building for a capital cost of as little as $4,000 per incremental building as our rollout reaches national scale in 1999. This data rate is triple the speed of current point-to-point radios which have capital costs of about $20,000 per building. Our point-to-multipoint technology has many other important benefits, including an ATM over-the-air interface to carry voice, video and data traffic over a single network, and the ability to provide bandwidth on demand to our customers.

Our successful advanced testing of the technology reenforces our belief that we can deliver a rich blend of essential services, ranging from voice and data communications, LAN-LAN interconnections and MPEG-2 video, to high-speed Internet access and distance learning. This will be the *Information Superhighway* in operation.

Building Toward a Much Bigger Future

The national deployment of services, systems, switches, and people on the large scale and accelerated schedule we are pursuing is expensive. However, the infrastructure we are putting in place today will support the needs of the far larger company we expect to become over the next several years. We have met with great success in raising the capital to build our network. Between January 1997 and April 1998 alone we secured more than $1.4 billion in debt and equity financing. The receptivity to our securities offerings is a solid vote of confidence in our business plans and investment decisions.

During 1997, we also saw significant growth in WinStar's New Media business which develops information content targeted to the business, educational and consumer markets. Their services help drive usage of the bandwidth we provide our customers and differentiate us from other telecommunications companies. They also strengthen the loyalty of our customers by helping them become more productive through our broadband connectivity and improved access to interactive services. This is how we enable the true convergence of broadband connectivity, computer technology and content.

In 1997, we also added significant depth and breadth to our already strong managment team. This led, among other things, to the formation of a stand-alone broadband services unit to spearhead the development of our data business, and to the creation of a new division concentrating on the acquisition of building access rights. In a related vein, the deployment of a new sales force to call on large businesses expanded our focus to a previously unaddressed market segment.

These initiatives gave us three major sources of telecommunications revenues: voice services for small and medium-sized businesses, voice services for large businesses, and broadband data services. WinStar's now broadened universe of potential customers is quickening the pace of our orders and installations.

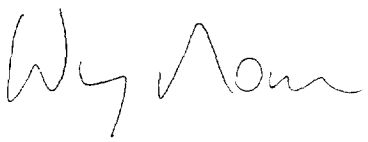
Addressing Our Business Priorities for 1998

For 1998, our priorities focus on executing our plan to deploy WinStar's network and systems to 30 cities. The valuable lessons we learned in 1997 are being applied in 1998. We expect to increase efficiency as we add sales volume to our growing infrastructure. We will also continue to analyze potential acquisitions that can lead to greater utilization of our network or enhance our service offerings. At the same time, we remain extremely focused on the goal of gradually reducing EBITDA losses from the inflection point we reached in the fourth quarter of 1997.

During 1998, we also expect to begin leveraging our expertise in creating fixed wireless communications networks in markets *outside* the U.S. The demand for bandwidth is a global phenomenon, and our approach to meeting it is not limited to national boundaries. Over the near term, we will likely seek spectrum rights in Canada, Europe and other regions. We could be in a position to launch some operational networks in 1999.

Our employees are totally committed to WinStar's mission: bringing people into the information age through high-quality wireless broadband services, and helping our customers use our network to productively share information with each other. Of the more than 180 million local loop connections that make up the U.S. telecommunications network, only a fraction have been upgraded to broadband status. This means we have an amazingly large business opportunity.

I look forward to keeping you updated on how WinStar is taking advantage of this great opportunity, and transforming it into value for our shareholders, customers, employees and community. In the meantime, I would like to thank all of you, and particularly our employees, for your tremendous enthusiasm and support, and for sharing WinStar's vision of the future, a future we are beginning to turn into a reality.



WILLIAM J. ROUHANA, JR.
CHAIRMAN & CHIEF EXECUTIVE OFFICER

April 24, 1998